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ABSTRACT

Participants in the Aspen Institute Conference considered how communications technologies may be applied to serve the needs and interests of this country's expanding community of retired and older citizens. Conference findings fell into two categories, reflecting questions originating in the human aspirations found in a public opinion survey released at the conference, and those derived from hands-on demonstrations and suggested modifications of various electronic devices. Discussion of the survey findings revealed a difference in outlook between older and younger adults: for the younger members of the survey, the so-called "command generation" in its late 40s and early 50s, time is enhanced by access to time-saving technologies; however, for older retirees among the well elderly, time is enhanced when communications and information technologies supply ways and means of combating a surfeit of time. As the discussion shifted between the substance of the survey and the specifics of various communications technologies, however, there were moments when recurring difficulties in defining "elderly" evaporated. There was no difficulty in visualizing distinctive products for the elderly when participants considered the contents of various technologies, and the more familiar the communications medium, the more the participants seemed able to contribute. Technologies discussed included electronic information kiosks, smart cards, high-tech publishing, videotext and voice services, V-TV, and audiocassette magazines. A list of participants is included. (EW)

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Communications and Society
FORUM REPORT

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# ATTITUDES AND TECHNOLOGIES—
## Striving to Match New Electronic Information Products and Services to the Needs and Interests of Elderly People

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Report of an Aspen Institute Conference
**NEW ELECTRONIC TECHNOLOGIES TO MEET THE NEEDS OF ELDERLY PEOPLE:**
**More Issues and Cases**
Wye Woods Conference Center, Queenstown, Maryland
March 23-25, 1988

by
Michael Tingay
Journalist/Consultant

*This is **FORUM REPORT** #7 in a series intended to invite wider interest in the concerns and activities of the Aspen Institute Project on Enhancing the Social Benefits of New Electronic Technologies, supported by a grant from the Markle Foundation.*

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# ATTITUDES AND TECHNOLOGIES—
## Striving to Match New Electronic Information Products and Services to the Needs and Interests of Elderly People

Never before in human history have so many lived so long in good health and economic comfort. This basic fact about modern America conceals a profound ignorance about the outlook and motivations of the tens of millions of Americans born before World War II, who are growing older in an era of rapid technological change without the benefit of relevant social models from previous generations.

As part of its broad inquiry into how new communications technologies may be applied to serve the needs and interests of the country's vast and expanding community of retired and older citizens, the Markle Foundation funded a public opinion survey to explore the values, attitudes and behavior of a representative sample of the 75 million Americans who are preceding the Baby Boom generation into middle age and beyond.

The study, which was conducted by the Daniel Yankelovich Group, was based on responses collected from 3,000 Americans in their homes. The method of study evolved directly from preliminary research conducted in Chicago, Illinois, and Atlanta, Georgia, by six focus groups representing people aged 45-54, 55-64, and 65 and older. Its findings were released at the third in a series of forums at the Aspen Institute on harnessing new electronic technologies to serve the elderly.

Twenty-one participants attended a series of roundtable discussions at the Institute's Wye Woods Conference Center in Maryland, March 23-25, 1988. Discourse was developed both from the findings of the Yankelovich study, which focused on the outlook of potential consumers, and from demonstrations of some of the technologies in question. Conference findings fall into two categories, reflecting questions originating in the human aspirations found in the study and those derived from hands-on demonstrations and suggested modifications of various electronic devices.

### PART ONE: Attitudes

The first conference in this series (March 1987) focused on demand and supply factors, and the second (October 1987) on case studies drawn from different technology-based categories. The purpose had been to identify and assess applications of new technologies that could be of special value to segments of the nation's elderly and retired population.

The third conference—like the first two, moderated by Michael Rice, Director of the Institute's program on communications and society—was devoted to the formulation of questions considering more deeply the conditions necessary to promote further development of such applications. The significance of the Yankelovich study was that it furnished for the first time a knowledge base of actual attitudes and motivations of the people constituting today's and tomorrow's market for proposed and potential applications.

Elaine Maran, Senior Vice President, the Daniel Yankelovich Group, elaborated on the findings of the study that she spearheaded. Its three defining objectives, she explained, were (1) to find insight into how older Americans live their lives and cope; (2) to distinguish the outlook of today's elderly and that of people aged 45-54, who comprise the elderly of tomorrow; and (3) to suggest guidelines for the future development of interactive technologies. In response to a central issue, which would dominate the

three-day conference by its persistent insolubility, that of defining the "elderly," Maran stressed at the outset her decision to allow the respondents in the survey to supply their own individual and collective perceptions of what constitutes "elderly."

The surprise in the findings, Maran continued, was the way in which Americans have come to think of themselves as "eternally middle-aged." A consistency of values and attitudes was displayed by people aged 45-50, 50-55 and so on, right up until the age of 70. Only then, or after 75, did the attitudes and behavior of respondents begin to take a different direction with the effects of age.

Maran told the conference: "While many values and attitudes were shared across all age groups, one does begin to see some differences, specifically, in terms of behavior, when we look at 70 year-olds and older as compared to the younger groups in the sample. Now I think that is a wonderful discovery. In fact, Americans stay young until the physical aging process really sets in.

"Up through 70—and probably a better break might even be 75—we really begin to think of ourselves as eternally middle-aged. Those of us who are getting a little bit older are cheered by this news that you are not 'old' until you really are quite 'elderly.'

"The other finding that was very satisfying, and which came as a great surprise, is that for a great number of older Americans, growing old has been a satisfactory experience. I think we have been so overwhelmed by all of the press attention that has been given to the needy and the disabled and the indigent elderly, that we have not had the opportunity to see fully that there is a large segment who are living reasonably comfortably—not everybody is well off, obviously—but who are leading a quite nice, happy and fulfilling life, even after 50."

Turning to the question at the heart of the conference, as to how new electronic technologies might improve ways in which older Americans cope with the problems facing them as they age, Maran went on: "Whatever the interpretation of the findings, we do know that aging is being handled very well and that mechanisms have been developed by the individual that enable the person to cope very well. . . . What is the role of technology in making old age a better, happier, more comfortable experience? A finding from the research that was something we had not thought about before is a 'two-pronged' way of looking at time and use of time."

By "two-pronged," she explained, the data showed that younger adults in the sample, aged 45 and upwards, are quite responsive to time-saving solutions via technology products and services because of their sense of harassment, time constraints and time pressures. Convenience and "speed-up" devices and mechanisms to *save* time are the kinds of product solutions they look forward to with eagerness. On the other hand, older people, 70-plus, have a different attitude to time and time management. They have a different need, she stressed, because they are looking to *fill* time.

"In terms of their special needs," she concluded, "solutions that are time-savers are not likely to be so interesting."

The other contrast brought out by the findings concerns feelings about being at home. Busy younger adults look upon a quiet evening at home as an ideal situation. On the other hand, older people do not want to be confined at home. "The ideal for older people," Maran pointed out, "is to get out. Even if there is marvelous entertainment that could be brought into the home, the preference would be for something out of the home. Since a lot of the current applications of technology have been very home-centered, I think that this finding should be thought through very carefully in considering the elderly as a target market for some of the things you have been talking about."

At the outset of the conference, several electronic products and services had been demonstrated and presented to participants. These included: two different kinds of electronic information storage cards; an electronic information kiosk; and an on-line electronic information service linking subscribers through the medium of personal computer and modem. Following Maran's introductory observations about the study, Michael Rice asked those participants representing information products and services how their sense of the market represented by the elderly had been revised or confirmed by the findings of the Yankelovich study.

The Fort Worth Star-Telegram started its information service in 1982 under the name, Startext, and this service was demonstrated on-line by its Manager, Gerry Barker. An initial survey among Startext's 3,200 customer-subscribers had revealed that 25% of the existing clients were 55 and older, Barker began. He had noticed at the computer clubs in Texas, which he attends as part of his marketing program, that many members are older people. "What struck me about the Yankelovich study was this feeling of connectivity," he said. "They want to be connected to society—they don't want to feel separated," he added, observing that the Startext service supplied that connection they were seeking, in addition to the satisfaction that accompanied the mastery of the computer medium.

Maran picked up the point about mastery of technology, noting that one of the surprises in the study was that the falloff in terms of interest and usage of high-tech products was not as great as might have been expected. She said, "Among the over-80s, there is a high level of ownership of microwave ovens and videotape recorders, which are, in fact, high-tech products." The principal need of the older population is to stay in the mainstream, Maran reminded Barker. "To stay active, to stay busy and to stay involved is what they need," she said. "Computer networking can play a role but that doesn't fully take into account the need for social connection on an in-person, one-on-one basis."

Helen Harris, President of Helen Harris Associates, Inc., who, like Elaine Maran, has a background in target-marketing consumer products, pointed out that the kind of person entering retirement continues to change as pre-retirement lifestyles evolve—a fact which the Yankelovich study confirmed. The length of time required to bring new technological products into the marketplace was so long, Harris observed, that people serving this market segment (the elderly) have to know what the needs and interests of the consumers *will* be at the time when the new electronic technologies actually come into use. She went on: "The way the study can be used as an effective marketing tool is to give manufacturers and/or financial backers of new products a clearer understanding of the potential that exists for the development of products for highly specific segments of the elderly marketplace. Not all 65-year-olds want to have a computer system that becomes their toy; there are many, many segments to every market. I find that the older market displayed the *most* segmentation. Older people require more, not fewer, choices. Their lifestyles have been so diversified over the years that their interests in products and services vary widely."

Patrick Purcell, Vice President for Product Development, Personal Health Card Systems, was concerned that new electronic technologies might increase the gulf between those elderly who are able to use new products and services and those whose disadvantages cut them off from access to such products. He said: "Those who are not in the mainstream are going to be left further behind because the technologies won't be responsive to their specific needs. How good is it if new products create a wider disparity?" he wondered. To clarify his concerns, Purcell alluded to the products known as "smart cards," one of which he had demonstrated using a card reader and Toshiba computer. This card, known as a "Medicard," contained a memory chip with an 8,000-bit capacity, enough to contain medical data for a family of four over two years, allowing for four sets of medical activities per family member. The first pilot application had taken place in Minneapolis where 1,000 citizens had been issued such "Medicards."

Purcell explained: "Take a smart-card system that would provide the elderly with the ability, as they move about their community, to carry on their cards all the data relevant to their financial affairs, their social services and their health care. In the physician's office, such individuals would have their records with them. This is terrific for the people who can go out and use Medicards. But if you are homebound and you don't have the technology to allow you to do electronic banking over the telephone or to access services specific to those who operate only from their bedside, the technological manufacturers seeking out the mobile groups will be enlarging the distinctions between those who can and those who cannot function." The same remarks might be made about the electronic information kiosk, Purcell observed.

The kiosk, an interactive electronic information display terminal to which he referred, had been presented in a demonstration video by Renata von Tscharner, Principal of the Townscape Institute, which in April 1988 was launching a city information kiosk (CIK) in Cincinnati, Ohio, as part of that city's bicentennial celebrations. The possibilities of adapting the CIK for special applications involving the elderly had developed out of discussion at the second Aspen conference on technological case studies. The case in question was a project called "AgeWise," a proposed electronic information kiosk for the elderly suggested by Gail Kara of the Institute of Gerontology at Ann Arbor, Michigan, and other colleagues.

The feature of the CIK that lent itself most readily to other applications was its use of hardware and software already developed and available. Renata von Tscharner described modifications that could be made to the existing system, as demonstrated in the video. By touching a screen in a free-standing kiosk, the user is presented with textual information and still video images. Each touch of the screen leads one through a series of categories of choice; information is available in different levels of detail and focus. It is highly interactive: when the user touches a telephone symbol, the equipment dials the doctor's surgery or the chosen restaurant, and so on. A specific benefit is that it is not necessary for users to wait for the system fully to unload its informational disquisition before they can move on to fresh choices.

Was there anything in the Yankelovich study that would discourage entrepreneurs, manufacturers or service providers?

Jane Wilson, Assistant Director, Telecommunications, American Newspaper Publishers Association, wondered about the specific applicability of the Yankelovich research for markets of the future. Was information gathered now about the elderly predictive of successive generations of the elderly? This was an important issue for developers of technologies and services who were obliged to project 10, 15 and even 20 years ahead.

The preliminary focus groups had highlighted the contrast between the outlook and expectations of the current group of retired people and those in their late 40s and early 50s, Maran responded. "The older retired people were just models of the busy, active types, understating any physical and medical problems they might have. The gloom-and-doom note occurred among those in their 40s and 50s. They can no longer assume that there will be unlimited growth and prosperity. Enormous economic pressure is being felt by people in their late 40s and early 50s who still have children that are being educated and not being 'launched' as quickly as before. Many of these people do not have the same guarantee of a retirement income, given the recognition that Social Security is not going to be enough.

"Their outlook is pessimistic because of real economic concerns. It is also a generation that has grown up with the concept of having it all. In this generation you do not want to make the kinds of cutbacks that might be associated with retirement years when there is not sufficient income to handle

your present needs. That is different from the way retired people recognize the value of work—in terms of staying connected and active and busy. Among people in their late 40s and early 50s, there is a feeling that you need to work not only to stay connected and busy, but because you need the money. From an institutional point of view," Maran concluded," in the country as a whole, we are going to have to rethink the whole business of retirement and work."

Abraham Monk, Brookdale Professor of Gerontology, Columbia University School of Social Work, explained that the generation in question, people in their late 40s and early 50s, is usually known as the "command generation." This is the leading generation politically and economically, he said, but it exhibits the very insecurities found in the Yankelovich study, because it is also the generation with the highest rate of unemployment in this country, unemployment which goes unreported. "Economists refer to it as a generation full of discouraged workers," he continued. "These are the ones who no longer apply for work, who were washed out of the labor market because of economic dislocations, technical obsolescence, and a measure of discrimination against them, regardless of the laws to prevent it. They no longer appear in unemployment statistics," he pointed out.

"The 'command generation' may be wealthy and rich but its members are also unemployed, displaced and discouraged," he said, predicting that America would see an unhappy cohort of older people when this group reached the age of 65 or 70. This is another principle that marketing people have to take into account. Whatever you find for one cohort may not be applicable for those who succeed them," he concluded.

The crucial difference between chronological age and the concept of an age cohort was clarified by Dr. Harry Moody, Brookdale Center on Aging. "At some point in life, we pass through every age but you do not change your cohort. A cohort of people is born at some specific historical period. Its members remain in that cohort from birth to death," he noted.

The fact that the Yankelovich study found changes of attitude and motivation only after respondents had reached the age of 70 or 75 means that people between the ages of 45 and 70 do not exhibit crucial differences in values, outlook and needs. This troubled the moderator, Michael Rice, because it suggested that from the point of view of market differentiation, there was no reason to separate Americans in their 50s and 60s from the rest of the population at large. Did this make moot the question of targeting electronic information products and services at the elderly? he asked.

"Age is not the defining mode of segmentation," replied Maran.

"In that case, would it be counterproductive?" asked Rice. "Would people in their 50s and 60s resent being singled out, as not being as young as, or as interested in products, as younger people?"

In her thinking about products for the older population, Maran reflected, age was not the most relevant positioning strategy. "You might consider working or non-working," she said, "just as for many years the question of whether a woman was working full-time or not working full-time was a positioning strategy for both products and communications. Unless you are talking to the very old and infirm, don't use age as your marketing distinction for the older population."

Gail Kara noted that Maran had introduced hypotheses suggesting that people who were working and non-working would constitute distinct markets, and likewise that those who were healthy would be different from those not healthy. Had Maran examined her data to determine the value of these comparisons? Kara asked. The study did show data in terms of working and non-working, Maran responded, adding that most of the people surveyed, over the age of 65, were retired.

This was the point at which the discourse shifted in a way that questioned the very premises on which the Aspen inquiry was founded (to examine electronic products in light of the needs and interests of the elderly). Did the Yankelovich findings suggest that the conference had been pursuing a misleading set of objectives? How useful was it to think of the elderly as a distinctive consumer group? The study showed that older people's views were not much different from adults of the "command generation." Did this suggest that a more productive line of inquiry would follow the distinction between the well elderly and the frail, as had been mooted and rejected at the first conference?

Roll Sullivan, an information technology consultant, noted that the study showed that apparent differences between people of one age and another among the survey respondents were actually only differences in degree of "wellness" or frailty or other qualities. "You are looking for something unique that just isn't there," he said.

Robert Barnes, Vice President of Marketing, Drexler Technology Corporation, who had previously marketed Polaroid products, spoke of the creation of wants, needs and desires in the marketplace which had not hitherto been perceived by consumers. The LaserCard optical memory card, which his company manufacturers, exemplifies a technological development for which mass demand does not yet exist in the marketplace. His comments, therefore, had special relevance to the question of how to match product and need.

"The LaserCard is not the first new product I have been involved with, and I was taught at Polaroid that sometimes you read market research reports, sometimes you don't. People don't normally know what they want. How many people wanted instant photography in 1947? Not many, simply because no one had thought about it.

"What I notice in marketing is that we tend to oversegment. Segmenting is a technique for causing sales to occur," he observed. "I think we ought to think about the homogeneous aspects of the marketplace rather than the narrow segments which this conference is addressing. I might be able to identify several target markets among the elderly alone but not one which would push a thousand units a day through a production facility, and those are the kind of numbers it takes to be in production."

Drexler's LaserCard differs from the "smart cards" discussed earlier in that the LaserCard offers simple transport for bulk information, while the smart card facilitates the manipulation of much smaller quantities of information. When he distributed LaserCards to the participants, Barnes explained that he saw this product operating in conjunction with all other ways of communicating information. It is, in fact, a publishing medium with an immense capacity (1,000-pages equivalent of text on a single 3.5" x 2" card).

Applications of this technology point clearly in the direction of the long-awaited and slow-to-arrive "paperless society." Drexler is working with the United States Air Force and Navy, Barnes explained, on ways of reducing the volume of paper necessary for operations. For example, a single frigate carries an extra 20,000 pounds of weight because instructions and manuals are all printed on paper, he revealed. The U.S. military goal is to capture, transport and use information in a digital mode for as many functions as possible.

Barnes had hesitated to attend the Aspen conference because he regarded the idea of product applications focused on the elderly as an attempt at oversegmentation. For a product like the LaserCard, the marketing requirement was to identify a vast homogeneous market in line with Japanese concepts of successful manufacturing. "This is how you bring down the price of a product," he reminded participants.

Barnes' observations reawakened the moderator's concern about the premises of the inquiry. Were the needs and interests of the elderly different from the rest of the population by such marginal

differences in degree, rather than distinct differences in kind, he wondered, that the conference had been trying to match up products or services with a certain category of needs and interests that could not yield a distinctive fit? Perhaps the the match for the elderly would be no different from the match to be made for middle-aged people, young people or even children, he speculated.

Professor Monk was of the opinion that in speaking of "not segmenting the market," the conference had an image of the healthy, the well and the independent, those below the age of 60 or 65. "But life expectancy will continue to increase," he noted, "and it will plateau at the point of 90. We will see an older and older population. The older they are, the more chronic impairments they will have." Electronic products and services will have to be provided that will facilitate their social participation, Monk believed.

Both Harris and Maran agreed that, from the consumers' viewpoint, it was important to distinguish between needs that derive from physiological changes taking place as people grow older and those deriving from their values and attitudes.

Did this not reinforce Sullivan's point, asked the moderator, that if discernible differences came from degrees of disability to be compensated for, why refer to "elderly" as a segmentation category? "Or, when we refer to age," suggested Rice, "does it become a shorthand for a constellation of other characteristics that may occur throughout life, but tend to occur more often among older people?."

Patricia Churton, Program Marketing Manager for Southwestern Bell's "Silver Pages" telephone directory, an overt effort to re-segment the market for "Yellow Pages" information (she sells advertising space to suppliers of consumer services and goods), bemoaned the lack of research about the older segments of the market. This made her job of convincing suppliers of the value of the older markets more difficult. There was a widespread notion that elderly people were not big purchasers, she said.

"If older people are significant purchasers," responded the moderator, "then are they not already using the Yellow Pages? If the well elderly are so little different in their consuming interests and habits from younger groups, what sense is there in trying to segment a distinct Silver Pages?"

It was foremost an advertising sales strategy, not a response to specific needs of the target group, Churton acknowledged, although the company had, in fact, increased the size of print in the Silver Pages directories. The difficulty was in convincing merchants that this marketing approach was viable, she admitted. Merchants expressed negative impressions about the elderly market that needed to be dispelled, she said. [Subsequent to the conference, Southwestern Bell announced it was abandoning its Silver Pages business.]

Gail Kara pointed out that if the most capable among the elderly were able to direct their own searches for information among such media as the Yellow Pages, other services—like telephone referral systems—would be freed up for use by those who were not so healthy and independent. This would be a more efficient allocation of resources, she thought.

Michael Rice refocused discussion on the fundamental conundrum: Was the shorthand being used, namely that of the "elderly," more trouble than it was worth? In an inquiry about the well elderly, was it a label that might lead to misdepiction?

Elaine Maran acknowledged that, once one sets aside the physical characteristics linked to aging, one could question the marketing value of trying to target a distinct and separate group bearing the label, "elderly."

Connie Goldman, radio producer and presenter, who stood closer than perhaps any of the participants to creating a new information product targeted at the elderly, as she would later demonstrate, reminded participants that they had earlier concurred, without reference to research, that *retired* people do have a different lifestyle and display different needs and interests. Moreover, the Yankelovich study itself revealed the elderly's preference for time-*filling* vs. time-*saving* options. The question, therefore, remained open.

## PART TWO: Technologies

What the discussion of the Yankelovich findings produced was insight into how needs and wants among the well elderly can be viewed through the lens of time-enhancement. For the younger cohort among the respondents, the so-called "command generation" in its late 40s and early 50s, time is enhanced by access to time-saving technologies. For the older retirees among the well elderly, time is enhanced when communications and information technologies supply ways and means of combatting a surfeit of available time. Between the shortage and the surfeit of time is a spectrum spanning degrees of difference in the requirements of the well elderly. This spectrum could be said to characterize potential demand awaiting the attention of new information media.

These media will supply products and services. Especially noticeable, as discussion shifted between the substance of the Yankelovich survey and the specifics of various communications technologies, were the moments when the recurring difficulties in defining "elderly" evaporated. There was no difficulty in visualizing distinctive products for the elderly when participants considered the contents of a videotext system, a high-tech card, voice services, or an electronic information kiosk.

The more familiar the communications medium, the more the participants seemed able to contribute. The contrast between questions about smart cards and suggestions for the audiocassette magazine of Connie Goldman supplies an example. Questions about the cards, which will not be in widespread use for some years to come, gravitated toward the ethical, social and philosophical; responses to the idea of an audio magazine, a new application of a familiar medium, came in a flood of specific ideas, which indicated that everyone could imagine the medium well enough to have views about desirable contents.

### Electronic Information Kiosks

The technology that combines familiar text and image with interactive capability is the electronic information kiosk, a touch-screen display terminal, which elderly people might use to seek advice or facts of relevance and interest. At an earlier meeting, Andrew Achenbaum, a history professor with the Institute of Gerontology at the University of Michigan, Ray Nelson, a philosophy professor at Case Western Reserve, and Gail Kara, also from the University of Michigan's Institute of Gerontology, had drafted a proposal for a such a kiosk system, known as "AgeWise." Gail Kara was on hand as a participant in the third conference to absorb lessons from a presentation of the Townscape Institute's City Identity Kiosk (CIK) given by Renata von Tschamer.

The Cambridge, Mass.-based Townscape Institute had used commercially available hardware and developed a database software with funding from the Bicentennial Commission of the City of Cincinnati to design an interactive computer kiosk to supply residents and visitors with information about the city. Following a video presentation outlining nine categories of information into which users could delve, the participants discussed possible adaptations of the CIK system relevant to the "AgeWise" proposal.

The basic format of such kiosks is as follows: A specially-designed, free-standing box features a full-color video screen on which one may see still video images, graphic displays, and text, the sequence and content of which can be controlled by touching a word, number or symbol on the screen. Touch the screen, and you direct your course at the speed you choose through different levels and categories of information. In the CIK, the information menu offers routes, maps, focuses of local interest, history and quizzes about the city. To place a telephone call, one touches the telephone symbol and the connection is established without dialing. The user can roam freely through the system without having to wait for a given set of data to complete its cycle.

Inside the box, concealed from view, are a hard disk and a personal computer. In the Cincinnati system, launched on April 4, 1988, the kiosks automatically check up on their fellows by telephone modem to verify that all kiosks are in working order. The telephone link also allows for updating all kiosks from one central, direct-dial location. The inclusion of a printer in the kiosk is technically easy, but it dramatically increases maintenance costs and creates a source of problems—when the printer is included, a human check is required daily.

Three such kiosks were about to go into operation in Cincinnati at the time of the conference, and sponsors for more machines were being solicited at $15,000 per unit, von Tscharner explained ($10,000 for hardware and $5,000 for five years of maintenance). Sponsors might include data pertinent to their interests. The system is free of advertising, providing a public service free of charge.

Most users would stand as they operated the system, but adaptations for the elderly would include seating. The touch screen could be lower, and access for a wheelchair could also be provided.

Michael Rice asked about the availability of hard copy. Von Tscharner confirmed the high cost of printouts owing to the need to pay a maintenance visit to every machine every day. Machines with built-in printers were in place at the University of Cincinnati, she said, but each day someone had to refill the paper, clean out paper dust, make sure the printer was working, and refill printing powder. This was why the CIK was originally designed for visual display only.

How would users remember which streets to follow in the Cincinnati application? asked someone, thinking of the elderly and memory problems. Von Tscharner thought that specific machines could be dedicated to the elderly and supplied with printout capacity.

Was there only a single screen for each kiosk? There was only one screen, but an additional visual display, possibly with a larger overhead screen, could be hooked up.

Asked how the problem of vandalism was addressed, von Tscharner mentioned that the kiosks required protection from the weather, and said they should be within view of a receptionist; failing that, a replica security camera could be installed for its deterrent value.

The question of sponsorship led to discussion of the dominating commercial aspects of other systems. These had been avoided in Cincinnati because costs for the database had been borne by the Bicentennial Commission.

The Cincinnati kiosks have the capacity to track which choices have been selected by users. This is important for the sponsors, but the electronic usage statistics do not reveal the identities or demographic characteristics of the users. They are therefore of ambiguous usefulness to advertisers. Historically, there has been a high incidence of usage by children—undesirable from the advertisers' viewpoint. User questionnaires can be included in the system and assistants could encourage people to answer questions.

Jane Wilson mentioned a now defunct kiosk system in Chicago, operated by the Tribune Company, which offered merchants the capability of selling coupons. A user could phone his restaurant reservation from the kiosk and hand the coupon to the restauranteur on arrival. This aspect of the system was a success, Wilson said. The Tribune closed down the kiosks, which were capital intensive, because of what they called the "iron problem." By that they meant the capital and maintenance costs of the kiosk hardware. As an information company, they did not wish to be in the "iron" business. Another problem in large cities was the logistics of where to place the kiosks in harmony with municipal ordinances, union regulations, and so on.

The Townscape Institute had concluded there were two conflicting questions about kiosks: Did it make financial sense? And was it welcomed by people? "We came to the conclusion that there is nobody who will pay for the advertising but there might be people who would pay to support a public information system and have their sponsorship displayed on the kiosk," noted von Tscharner. "It does not in the end make financial sense," she went on, "to provide information linked with advertising. It also reduces the credibility of the content if advertisers sell services."

Was there a system where at least part of the cost was borne by the user, wondered Michael Rice, thinking of a coin-operated mechanism in which a quarter could purchase, say, three minutes of use?

Participants did not know of any such model, but Helen Harris mentioned a large independent supermarket with a sponsored information kiosk, used by elderly people, displaying menus that one can take away in printed form. In the case of a chicken menu, a poultry producer would be the sponsor.

Abraham Monk was sure that restaurants using kiosks to offer discount dinners for the elderly from 5 to 6:30 p.m. would find a market; separate listings for free or low-cost cultural activities would also be a success, he thought. The issue of placement was pertinent. Where did older people congregate? Certainly in supermarkets, he thought, but municipally-sponsored senior centers also attracted large numbers of visitors. A kiosk placed near the entrance of such a center would draw many users, he supposed.

Turning to the lessons of the Cincinnati operation for the "AgeWise" project, Michael Rice asked Gail Kara if it came close to being the kind of machinery she would choose to put "AgeWise" to the test.

The software package had the kind of interactivity sought for "AgeWise," replied Kara, explaining that the user must not be limited to moving in one direction down a path within the system. One could be locked in by a movie or a video or by a programmer's mind in other systems. There were lots of technical considerations for older people to be considered: Could the user sit down? Was "fuzzy font," a print type easier to read on a screen, required? Was there too much information being put on the screen? Should one limit the number of icons? Aside from hardware and software questions was the choice of artistic elements to pull people to the kiosk, Kara said.

Again the problem of printouts arose. Michael Rice had been most discouraged to learn about the clumsiness of printouts. The more useful the information, the more frustrating it was to leave it behind, he felt. A pencil and paper would be okay for simple information like phone numbers but this would not suffice for really demanding information. For that a printout would be needed.

An even greater challenge would be to entice people to use the kiosks, Gerry Barker maintained. A beautiful system had been installed in hotels in Dallas, with more interactive components than the Cincinnati CIK's, but hotel personnel confirmed that nobody used the kiosks. Eventually the system was taken out.

Connie Goldman recalled how timid people were at experimenting with such systems. The social pressure of a long line behind you should be remembered, she said, alluding to the intimidating effects of a line at a Manhattan pay phone. Could such an information retrieval system be designed more exclusively for older people?

Two distinct problems should not be confused, advised Roll Sullivan. One was: How broad should be the access? The other was: What kind of database was needed?

Was the database suggested by Renata von Tscharner (Medical/Health; Financial/Tax; Social; Education; Transport; Games and Tests; Project Suggestions; in different categories) likely to be responsive to the needs and interests of elderly people? wondered Michael Rice. And if it requires the graphics of the Townscape Institute's system, as opposed to the pure text system of Startext, it must be a dedicated system, not just an ordinary personal-computer terminal but fully customized, he added.

Startext's demonstrator, Gerry Barker, said that if such a database were delivered via a personal-computer network, the graphics could be delivered locally; the user could use her own hardware and software to generate the graphic portions of the service. If she wanted to go on line, she could go into a terminal mode and call the main database, explained Barker, indicating that the use of the terminal mode did not imply giving up the attractive graphics.

One of the reasons why the conference had focused on kiosks, Rice recalled, was that few elderly people had personal computers. It would be easier to attract them to something where their own initial investment was zero, the investment of curiosity for a moment. Was there something especially attractive or unattractive about kiosks? he asked.

They are almost too information-intensive, pointed out Connie Goldman. "How can you remember all this that it tells you? If it doesn't print out, and you have nothing to write it down on . . . the last thing I would want would be to go to a kiosk and find out about Social Security, fiscal planning, bookkeeping techniques, insurance—and feel stupid because I couldn't remember anything," she warned.

Von Tscharner added, "One important function of kiosks is to let people know about group gatherings and events to enable seniors to remain active and connected."

## Smart Cards

The "AgeWise" proposal, because it included suggestions that a future kiosk development might include some sort of "smart card" whereby a user could extract customized information from a broad database, had been sent to Drexler Technology's Robert Barnes. Michael Rice introduced the "smart card" discussion by asking Barnes what he thought of that idea.

Barnes began by declaring his "bottom line" interest: Drexler Technology Corporation manufactured LaserCards; the company had a production capacity of 40 million a year at a cost of $2.50 each. It was not necessary to understand how the card worked, merely to bear in mind that a single card could store, in digital form, the information stored on a thousand sheets of paper, he said. It was in that sense "electronic paper," nothing more, nothing less, he confided, holding up one of the 3.5" by 2" mirror-surfaced cards, which he had distributed to the group.

Patrick Purcell, the Marketing Vice President of Personal Health Card Systems, had demonstrated the "Medicard" on the first night of the conference, showing how its processing capacity was like

what one could do with a personal computer and a conventional floppy disk. That was the distinction between the "smart card," as demonstrated in the "Medicard" format and the LaserCard, Barnes explained. Both cards had memories of sorts, reservoirs for information; the LaserCard had a vastly greater memory store for less expense, but it relinquished the built-in processing capacity.

From the standpoint of getting information from a kiosk, paper was inefficient, he said. If one wished to take information from a kiosk in a machine-readable mode, he went on, both cards were efficient at the job. The question was: What did one want to do with the information?

If the need was to take the information and transport it before reading or manipulating it again in another device, the LaserCard was probably the more efficient way. If one wanted to manipulate the information within the confines of the card, then the "smart card" with its processing capability was more suitable.

What would be an example of a manipulation within the confines of the card?

"You might dump stock information in and do a trend analysis," replied Barnes. "You might have a program in the chip which allowed you to conduct stock analyses; or the chip in the card could be used interactively to build some kind of profile. As you were using the kiosk, it would begin to know what you need at a given stop within a particular kiosk. It would have data you had pulled out before, so when you inserted the card, there would be an interaction based on the card's recognition of your needs, which it would know from a previous occasion."

The value of each card, Barnes and Purcell concurred, lay in its use as a data medium to be used in concert with other communications technologies. LaserCards and "smart cards" could empower people to use existing information more valuably, as in the case of personal medical records. The cards themselves were a step above other information media. They were not in competition with other media or with each other, Barnes believed.

He also pointed to the importance of introducing such media broadly into the marketplace. He did not think that the elderly segment of the market had the "power" to drive either a "smart card" or the LaserCard. One would have to "piggy back" on something like the Maryland Blue Cross "Lifecard" (an entire package of protection from that insurance company), because an enterprise of that scale was big enough to drive the cards.

As the range of card uses was discussed, the conversation turned swiftly to scenarios and situations which participants found to be "spooky" or scary. Rice wondered whether he alone was disturbed when confronted with a computer terminal-equipped service agent, such as at car-rental outlets, where only the agent, not the customer, can see the screen. How much more vulnerable would one be if only "professionals" could input and access data on one's personal health card?

Or, would the launching of a new medium like the "smart card" provide a perfect opportunity for public and consumer education to mitigate the danger of losing control of information about yourself? suggested Rice. A person could be given the opportunity to read his or her own health records, perhaps from a kiosk system at the hospital. One might even call up on the screen interpretations of test results, diagnoses, or medical terminology.

Barnes agreed that the social implications of such data media should be monitored carefully. Roll Sullivan pointed out that privacy-intruding information, about which people were so sensitive, was already in the possession of various institutions and businesses. What was new was the capacity for the individual to carry it about on his own card.

"I raise the question partly with the target group with which we are concerned in mind," explained Rice. "Is this sort of technology, when it is applied to a personal profile, likely to enhance one's sense of security, or to make you feel somehow more dependent and vulnerable?"

Sullivan thought that the question was one of perceptions of security rather than the actualities.

One of the Personal Health Card System programs used a Pasteur Institute model to determine an individual's personal health risk profile, Purcell countered, offering an example of card use designed to enhance independence. The program dispenses health education and.advice on behavior modification on an interactive basis so that a person can monitor the improvement in his health risk profile as he adopts a new diet or exercise program. Prior to leaving the prevention center, Purcell continued, the patient can read the card on a personal computer screen with the doctor. All the data are transferred to the "smart card," which is carried by the individual. Months later the patient can feed his card into a reader to monitor improvement in his risk factors.

**High-Tech Publishing**

Of quite distinct interest from applications of such cards for the elderly is the question of the LaserCard as a publishing medium. Is it the next step toward the "paperless society"? Whether the LaserCard becomes a mass medium for publication is of central relevance to Drexler Technology Corporation: It makes the difference between millions of cards and billions of cards.

By examining which countries in the world have electricity, one could estimate the potential numbers of customers for a high-tech card, Barnes claimed. Every reader is a potential customer.

Responding to this notion, Michael Rice remarked that libraries or bookstores could have on-line connections to access from a remote location and enter onto a customer's card a treatise or other publication of obscure interest that would not have to be stocked on site. "How close are we to pocket card readers?" he asked.

Readers the size of pocket calculators were currently in existence, replied Purcell. AT&T has put card-reading slots in the sides of public telephones, he continued, explaining that a 40,000-card trial had been conducted at 13 American airports. Such reading systems were fully interactive and could register, change and purchase an airplane ticket and show the seat reservation on four-line visual display. "It would not be hard to equip restaurants, emergency rooms and any piece of electronic equipment to read smart cards," he concluded.

Cost was a difficult question, Purcell remarked. The marketing answer to questions of cost was relevant, said Barnes, explaining what marketers call the "innovators and skimming approach" to cost. Polaroid had used this approach when it introduced a new model instant camera at a very high price. As the innovators among customers bought the most expensive product, word of mouth induced more people to want it. Within six months Polaroid would introduce the next generation of product with fewer features but a lower price. They spread that product out through the market over three years. Then, they reintroduced the top-of-the-line product. Barnes went on: "That's the way you go to market with some consumer products. The electronics industry is a little different. We promise you that we will pay you to take the product from us. We try to make you happy with the fact that it only costs $100, or $50 or $10."

He was being facetious, he explained, but everybody now wants to know how cheap something will be. The wholesale price on the LaserCard was less than $2.50, a pre-requisite of staying in business.

"Reader-writers will initially cost about $1,000," he predicted, "but they should drop below $500 in five or six years."

"Don't we want the Walkman equivalent?" asked Rice.

Such a product could be developed and on the market within ten to fifteen years, possibly in five years, Barnes predicted. "But remember what you are trying to do," he cautioned. "The point I am trying to make here is: Conceptualize a system. Don't try to exclude all but one technology. Try to see how they all relate. What you are trying to do with all this iron and all this plastic is communicate information. You know the customer better than I do. Other people know how to put that objective into an information package. All we do, as provider of the card, is transport it."

## Videotext and Voice Services

Responding to the advice not to get "hung up on" a particular delivery technology and to focus on the database, however it might be accessed or delivered, the conference undertook to discuss voice and text-based systems simultaneously.

### On-Line Videotext

Startext, a videotext service already in existence in Texas, was demonstrated on-line by Gerry Barker, the manager of Startext, an enterprise of the Fort-Worth Star-Telegram. The service is available to owners of personal computers for a standard monthly fee, with optional additional information accessible at an extra charge. It was established in 1982 and has 3,200 customer-subscribers. Startext offers a choice of updated news in wire-service textual form, electronic mail service, a bulletin board, a 15-minute delayed stock quote service, classified ads, travel schedules, and features, including some written by subscribers. Optional extras include an on-line edition of Grolier's Encyclopedia and a home-banking service.

Aspects of the service which drew conference participants' attention were: the success of its electronic mailbox; the added depth of news stories available from the unedited wires of the Associated Press; the way users write and contribute texts for distribution and publication to fellow subscribers; and the enthusiastic feedback from subscribers, samples of which Barker read to the conference.

As the initial demonstration and subsequent discussion revealed, the presence in the marketplace of retired and elderly people is not in itself evidence of a distinct market. Prior to the conference, Barker himself had not considered the special significance, if any, of the age of Startext's on-line clientele. However, he found that 25% of his customers were aged 55 years and older, and he proposed investigating the age structure and characteristics of these subscribers in detail.

Was Barker inspired to introduce new components to Startext's database, having been introduced to the needs and interests of older subscribers? Might he even modify the system to bring in new subscribers?

Startext's two-way interaction facilitated the discovery of knowledge about subscribers, Barker said, and fifty percent of modifications made to the service resulted from direct feedback. He was considering a focus group of users to be invited to the office to brainstorm possible modifications. The system was already an outlet for writers among the subscriber base, Barker reiterated, and he thought that senior citizens might deliver and publish a specialized newsletter of their own. This could be added to the column already being contributed on health-care issues.

The service took responsibility for material published in this way, and Startext would not permit doctors or lawyers to transmit medical or legal advice without specific protection. Trusted writers, however, were allowed to feed directly into the system without passing copy through an editor. At the user end, the mechanism for delivery, he insisted, has to be as easy as turning on a television if videotext is to become a mass-market medium.

The basic Startext service is sold at $9.95 per month. Banking services cost an extra $1 per month. Grolier's Encyclopedia costs $19.95 for three cumulative hours of access. The Startext service was priced just below that of the parent newspaper, the Star-Telegram, which costs $10.50 per month. Stock quotes at 15-minutes delay cost subscribers another $9.95 per month. The cost differential was shifting, Barker explained. As the cost of newsprint rose, and the cost of physical transportation of newspapers went up, the electronic service would become comparatively cheaper. Some of Startext's customers drop the delivery and purchase of the newspaper in hard copy.

A new business opportunity is being developed based on the federal office of Housing and Urban Development. Data from the local HUD office on housing foreclosures are updated daily, and this information stream is sold separately; within five hours of close of business at HUD each day, subscribers have the bid results on-line in their homes. Barker thought that an adaptation of this approach could be the publication of a specialized newsletter by and for the elderly, financial perhaps in content, which would generate revenue each time it was looked at. Startext could levy a small percentage of the sale on the publisher, he predicted.

**Telephone Voice-Based Services**

Some of the greatest advances in communications and information technology have occurred largely unnoticed by individual consumers because they have taken place in the realm of the most familiar of all electronic devices, the telephone. Information storage, handling and switching functions are now accessible to telephone subscribers by means of the numbered buttons plus the # and * signs on Touch Tone or other tone-dialing phone instruments. This links subscribers to an increasing range of voice-based services in a variety of forms: from passive message services to interactive recorded services to mixed systems using both recorded and live interfaces.

Two features seem likely to make voice services over the telephone acceptable to elderly users: First, they are delivered by a commonplace device. A telephone does not require the user to make a new capital investment or an investment in learning time, nor does it present psychological obstacles. Second, the voice form of messages and information is transmitted to the human ear, not to the eye. With recorded-voice services, users can choose to listen to the same message more than once, and it is not necessary to manipulate text on a screen. Services involving interaction are clear and easy to use because the instructions on which buttons will deliver one's choice of information are delivered one step at a time.

At the moderator's suggestion, participants experimented with the 1-800-STAGE-NY and 1-800-777-7700 numbers, respectively, accessing a directory of New York theaters and the information service of the Immigration and Naturalization Service (INS).

The former service seemed infinitely better. It did not require the caller to wait for the audio equipment to complete delivery of its disquisition: it proceeded through the information cycle at the touch of a button. The INS service, supposedly interactive and empathetic for the benefit of nervous non-English-speaking aliens, turned out to be posing as an interactive service. Callers had the choice of

speaking or staying silent. Any speech, no matter what was said, triggered the mechanism into its next cycle. It could not be interrupted by the user. In sum, the INS message service seemed to exacerbate the worst popular perceptions of a cold bureaucracy.

Richard Greene, a consultant on electronic data and voice information applications, took the floor to introduce a discussion on voice information services. Edith Bjornson had previously reminded participants of the importance that technologies be immediately and ubiquitously available. "Wonderful new technologies are in prospect," Greene concurred, "but the telephone is here and now, available to and well accepted by all members of the community."

He continued: "SENIORS' telePOINT—the term incorporates an acronym for 'Seniors' TelePhone On-line Information NeTwork'—is a project on which I am working. It is a telephonic, two-way dissemination system supplying information of service and relevance to the elderly and those who assist them. Its simplest benefit is that no hardware modifications are needed." Greene went on to outline some of the insights from a survey that the conferees had participated in on their first day, suggesting services to which SENIORS' telePOINT might direct high priority: merchandising and service discounts, banking interest rates, health insurance, medical service and medical reminder calls.

"You can hardly pick up a newspaper or magazine where mention is not given of the accelerating needs of our aging population," added Greene.

"Audiotex, another term for voice information services, is just one of many answers. The Yankelovich study showed that pre-retired people are interested in time-saving devices whereas people who are retired are interested in time-filling devices. SENIORS' telePOINT could lead both groups to information to satisfy either of those needs," he argued. "One application would tell users what services there are and directing them on how to gain access. A tremendous number of concepts can be employed, including the multi-lingual concept. Multi-lingual audiotex could enhance electronic information kiosks, too," he suggested.

One well-known time-filling use involves "976" numbers, where users pay for each call. Since some of these voice services are pornographic and accessible to children, they have stirred consumer complaints and a political backlash. A law, in fact, was passed by the U.S. Congress, tacked on to an education bill, shortly after this conference. It was aimed at killing "976" services. "976" services typically include soap opera commentary, trivia quizzes, exotic news services and horoscopes.

Another growing market is for advertising-sponsored services. "Talking Yellow Pages" are growing rapidly, Greene announced. In that system the printed listings are complemented by an access number which callers dial to find out more information about a given product. This offers sponsors a chance to provide continuous informational updates.

What are the start-up costs for such systems?

Equipment for local services could cost from $10,000 to $100,000, Greene replied, but there were many variations, all at different prices. If one leased equipment, it was less expensive to get started than to purchase it; equipment could be rented with an option to buy. Voice-processing service bureaus also offer a range of options for customers on a fee basis.

Renata von Tscharner wanted to know if any social service agencies offered counseling and conversation with live operators to discuss one's personal concerns. Greene mentioned that all 411 directory assistance calls depend on live operators, who now consult a computer screen to find the right

number; they then press a button to supply the recorded answer requested. "This conversion from computer text to spoken word is called text-to-speech or speech synthesis," Greene said. "Combining it with digitized pre-recorded portions is called concatenation." Talking apartment guides, for example, supply a voice interrogation that offers choices of locality, size, rent or any other pertinent options; a touch of the dial takes the inquirer deeper into the system; a process of elimination and search provides listings of apartments of the kind required. All this is automatic until the user touches the button linking one with a live operator. A system could be fully automated, Greene explained, or passive (as with the weather forecast), or interactive with both automation and a live operator.

Could a system be set up where the phone rings and a voice reminds you to take pills? asked Edith Bjornson. It certainly could, agreed Greene.

Telephone reassurance services, staffed by volunteers, have existed for 20 years, Abraham Monk reminded the conference. The offering agencies have created a tradition of annual get-togethers in an effort to offset the lack of face-to-face contact, he said.

How important is the sheer delivery of the information? Would the lives of elderly and retired people be substantially improved by such services? Or are only marginal differences possible to achieve by these means? Does part of our happiness derive instead from *socially*-interactive ways of seeking information?

Harry Moody reminded participants that when information services were offered in places like senior citizens centers, only a small proportion used them. "I would argue that there is great need for education in order to empower people, but I am not sure that the provision of information by itself will lead to education," he counseled.

Roll Sullivan disagreed. Both are needed, he asserted, warning Moody not to confuse wants with needs. The distinction was not simple: Keeping people alive, health, food and shelter—these were needs, he maintained. Where wants were concerned, perhaps one did have to encourage motivation: It would then be a question of *marketing* information.

"But how hungry are we for information?" the group was asked.

What did "new information" mean? wondered Connie Goldman. She supposed that getting information was a way for an older person to stay in touch. We should not ignore the "whole process of what feeds into you, and your self-image, your ability to learn something new, so you can go out into the community and have something current to say."

That assertion was borne out by Startext, where lots of people look at an electronic bulletin board, maintained Sullivan. One might never put a message on it, but just reviewing it can make one informed and up-to-date.

**The Teachable Moment**

"Maybe some of the greatest advances in the quality of life for older people have already been made," speculated Gail Kara, thinking of Social Security, Medicare and Medicaid, "but we could still make a difference in their lives. If we accept that older people are very different from each other, that they are heterogeneous, that they have very specific individual needs, we could provide information to them and to their adult children who were interested in helping them negotiate the information. The key is to reach them at a *teachable moment*. That's how to make a difference," Kara elaborated. "The

particular information may have been in the newspaper a week before. It may have been the greatest article ever, two months ago, on a particular topic. But our aim should be to deliver that information at just the moment the individual wants it." In the process of trying to help older people, Kara would later contend, we create artificial distinctions in describing the needs of the aging versus the aged; the working versus the retired; the healthy versus the frail. These barriers must be removed, she asserted.

## V-TV

The idea for "V-TV," or video visits, originated with Cecilia Coyle of the Long Beach (Long Island, NY) Nursing Home, and the Markle Foundation engaged Elaine Frank, Vice President, Program and Human Development Director at D.C.'s Greater Southeast Community Center for the Aging, to conduct research. Could video productions, done by the families of the Center's residents, complement the role of the personal visit? To investigate this, a home-grown V-TV project was launched, taped samples from which were shown to the conference participants. The production quality was poor but not so as to obscure the value of this kind of special communication medium for the elderly and infirm.

The health-care facility in which Frank introduced the concept of V-TV is one where 92% of the residents are on Medicaid. They are primarily from lower- to lower-middle-income backgrounds and, in large majority, black.

Frank's tapes offered layered perspectives. A wedding, for example, had been filmed; when later viewing the tape, the resident recited the Lord's Prayer along with the wedding guests. This viewing was itself taped as part of the project's evaluation process. For the resident-patient to see himself or herself in the picture added yet another element to the V-TV concept, Frank explained. Another tape was made by relatives of a very confused resident. A nursing assistant who viewed it was struck by the family's recollections of her patient as the caregiver for three generations. She said that it gave her a fresh perspective on caring for the individual now.

Did Frank possess relevant statistics about family visits? How often did family members visit? How typical were patient-residents who received no family visits? Some of the video makers visited two or three times a week, Frank replied, while others came far less often. Some residents are, in fact, never visited. In one particular case, the videotape was a significant substitute for a wife's regular visits when she was obliged to be out of town for two weeks. During her absence, Frank explained, the husband was consoled by repeated viewings of his wife's tape.

Frank recapitulated the hypotheses she was intending to test. The Center was collecting baseline data from which to draw conclusions on decreasing feelings of loneliness. It was also addressing the problem of guilt among families. Each time a tape was shown, the Center completed an "encounter form," she added. Major life changes during the period were being monitored. There was, however, no control group because there were too many variables, she claimed.

To set up a control group would not be difficult, commented Harry Moody, but neither would it be necessary since the project "had face value".

For Monk, however, the undertaking was too simplistic. Measurement of morale and cognitive function were standard, he acknowledged, but a simple "before and after" would not suffice. There were too many variables from the patient's viewpoint, he maintained. The possible effect that families, by submitting tapes, would cut down their personal visits, might also be offensive, he warned. Visiting patterns are being monitored, Frank indicated.

Exploring opportunities for possible commercial interaction, so that the idea could be pursued further, Robert Barnes drew attention to the fact that companies like Polaroid would like to see how they might sell film by supporting such activities. If the goal were to sell film, Elaine Maran added, the company could conceivably give away the camera.

One aspect of the video took Rice by surprise—the way patients reacted, not as if the undertaking were a mock TV talk-show or news broadcast, but as if the maker-participants understood fully that it was a kind of visit. Most home video looks self-conscious, like the cliched images of snapshots. "By contrast, the process we witnessed here was more like a telephone call," he pointed out. Like audiotex, V-TV uses a familiar technology available today.

### An Audio Cassette Magazine

For five years Connie Goldman has made programs for radio broadcast offering positive "images of aging." It was now her intention, she explained on the final day of the Aspen Institute's third conference on information technologies and the needs and interests of the elderly, to launch and perfect a magazine recorded on audio cassettes and distributed through the mail. She was haunted by the same marketing conundrum that confronted the conference: Should such a project be targeted at the general population or be aimed only at the older population? This was the question she invited the conference to consider.

By way of introduction, she reminded the group of National Public Radio's most familiar formats. She also played a selection of her inimitable, stylish short sound features, "Late Bloomers." These features consist of five-minute vignettes of "extraordinary, ordinary Americans." At the heart of the product lies an apothegm: "No matter how old you are, if you can move, you can learn."

The new magazine, Goldman imagined, might be called "Gray Matter." Renata von Tscharner suggested an alternative title, "Silver Sounds," and the instant, intuitive concurrence from the group suggested enthusiasm for the project, whatever its title.

The discussion was effervescent, although it grounded somewhat over how to cost out and underwrite the magazine. No matter, the undertaking captured the creative impulses of the conference. A plethora of wildly divergent insights and practical ideas issued from all quarters.

Opinions were offered on structure and form; content and style; placement and marketing; advertising and sponsorship; costs and feasibility; focus groups and pre-production generation of ideas; club memberships and subscriptions; disposability and collectibility; promotional liaison with original equipment manufacturers; sources of data and product; lengths and breadths; perceived wants and needs; pertinence and the impulse to escapism; the role of text. Should the table of contents be printed? Should segments and features be listed by elapsed playing time?

The flood of suggestions failed to address Goldman's question about targeting, but everyone had a clear and immediate vision of a true magazine.

But how much of a diet of uplift and moral lessons could one digest before saying "Enough!"? Could the format grow tiresome for the age group we were trying to reach?

The series, "Late Bloomers," did display that quality, Goldman agreed, but mentioned that the tape played for the group was a short digest from a 65-part series. The series showed the downside of aging as well, she assured us, but she still hoped to transmit a buoyant attitude in the new magazine. She

intended to steer clear of hard news, expertise from Capitol Hill, and so on. She certainly would avoid "insurance men peddling their different brands of fear." The mood of the magazine would be soft, she predicted.

Did she have any idea what it would cost? asked Gerry Barker, suggesting that the probable need for some kind of subsidy might explain why the market did not currently offer such a product. Delivery costs were a problem, just as for a newspaper, he asserted. First-class mail had just risen in price by 14%. Goldman was unsure how to address the costing problem.

She wondered how best to underwrite six issues of 90 minutes each per year. She would like to give it away, she admitted, but had also considered selling annual subscriptions at $19.95, while reinforcing the project with help from a foundation and then aiming for a huge subscription.

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The closing session returned to the quandary identified earlier in the conference: Did the group still feel it was laboring under a "Catch 22" by concentrating its concerns on the well elderly as opposed to the frail elderly? The decision not to focus on the frail elderly had been taken in the belief that other fora were already thoroughly covering the needs of that population segment. But were the well elderly, on the other hand, found to be so similar in their needs and interests to adults generally that little distinction could be drawn between their potential uses of new technologies and those of people in other age groups?

"In fact," said Rice, "on the evidence of the discussions we went on to have about a great variety of electronic information technologies, we face no lack of suggestions or proposals for adapting them quite specifically to the needs and interests of the well elderly. I'm convinced it still makes sense to frame our inquiry in this way. At the same time, we might be wise to revisit the issue of how these technologies might be designed to be of special value to the frail elderly, too, especially in regard to cognitive and emotional needs."

"Being older is not just like being younger, and we should not get carried away with such an idea," Alberta Jacoby, Assistant Professor of Public Health, Yale University, pointed out. "The well elderly are not part of the general public and do not consider themselves so," she asserted. "Relationships among the elderly are different, and the challenge of these technologies is to enrich these lives, perhaps through public-service or creative activity—anyhow, to motivate people to strike out in different directions, to serve others in the community rather than just to pass the time."

The conference expressed support all around for the value of product prototypes and service field trials that would put to the test of consumer experience those expectations for serving the elderly which seemed to have survived the group's skeptical scrutiny. Future workshops will be devoted to fashioning and evaluating such test cases.

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